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ABSTRACT

This paper investigates several features of deaf mothers' behavior that have been identified as playing crucial roles in facilitating natural language acquisition in deaf children, including gaining the attention of the child, modification of the structure and content of adult language or motherese, and maintenance of communication and periods of joint attention. Issues and features of mother/child interaction in sign language and manual/visual interaction modalities are examined. Deaf mothers spend much of the first year of their child's life establishing visual communication. This may be just as, if not more important than the quality of linguistic input in child language learning. Knowledge of deaf motherese has important implications for hearing mothers of deaf children, and can be most effectively in organized intervention programs to help mother/child interaction. Through the study and comparison of the acquisition of language or communication in deaf children of deaf and hearing parents, the transition from pre-linguistic to linguistic communication can be better understood. Findings will have practical application in sensitizing hearing parents to the perceptual world of their deaf child, and insights gained may provide vision into the process of language acquisition in general. (Contains 19 references.) (NAV)

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DEAF CHILDREN INTERACTING WITH DEAF PARENTS: A KEY TO UNDERSTANDING THE TRANSITION FROM PRE-LINGUISTIC TO LINGUISTIC COMMUNICATION.

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DEAF CHILDREN INTERACTING WITH DEAF PARENTS:

A Key to Understanding

the Transition from Pre-linguistic to Linguistic Communication.

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ABSTRACT

The transitional period from prelinguistic to linguistic communication has become a focus of much attention over the past decade. Conventional research suggests that language emerges from prelinguistic communication, however in more recent years researchers have suggested that this continuum does not exist. No agreement has been reached, however as Mohay (1992) points out it is 'important to make a clear distinction between communication as a process and language as a system'. Through the study and comparison of the acquisition of language in deaf children of deaf and hearing parents one can understand more fully the transition from prelinguistic to linguistic communication(Ackerman et al 1990). Research (e.g. Kyle & Sutherland 1993, Mohay, Luttrell & Milton 1991, Mohay 1992) has shown that difficulty in early communication between hearing parents and deaf children stems from lack of awareness in relation to the necessary strategies to enhance access to language and inadequate skill in manual communication. Hearing parents experience considerable difficulty establishing appropriate conditions for language development. Schlesinger & Meadow (1972) and others have suggested that it is the communicative competence of the deaf child which is crucial to the quality of mother/child interaction. In contrast, other researchers (e.g. Mohay 1992) believe that quality of mother/infant interaction is crucial to the development of communicative competence.

This paper aims to examine several features of deaf mothers behaviour which have been identified as playing crucial roles in facilitating language acquisition in deaf children. Amongst these the following will be discussed:

i. gaining the attention of the child;
ii. modification of the structure and content of adult language ('motherese')
iii. maintenance of communication and periods of joint attention.

In light of the above, the importance of this investigation for practical application in sensitising hearing parents to the perceptual world of their child will be discussed. In addition, theoretical implications arising from this research may provide insights into the process of language acquisition in general.

This paper will briefly examine some of the issues and features which may be of significance to the ontogeny of language, focussing primarily upon the nature of mother/child interaction in the manual/visual modality. This paper serves as something of a superficial and non-exhaustive research review of issues pertaining to early mother-child interaction in sign language. Issues raised are intended to introduce linguists, educators and speech and language therapists to the minority language of sign and communication in the visual modality.

Recent research has shown that comparison of deaf children acquiring sign language in different language learning environments may provide an insight into the progression from prelinguistic to linguistic communication. In addition, such a comparison may highlight some of the salient environmental influences which may effect a child's acquisition of language.

Research into the acquisition of sign language in deaf children of deaf parents suggests that the language learning process is as effortless as the process that hearing children experience when acquiring a spoken language (e.g. Deuchar 1984, McEntee, Ackerman & Kyle 1995, Mohay, Luttrell & Milton 1991, Volterra & Caselli 1983). Signs and sign combinations appear in deaf children's conversation at the same age as words and phrases in hearing children's spoken language. Some researchers (e.g. Bellugi & Klima 1982) have observed that the acquisition of phonological, morphological and syntactic rules pattern those of spoken language. It would seem therefore that communicative and linguistic development proceeds according to similar stages of acquisition. There is perhaps a slight advantage in that the gestural modality may be used at an earlier point due to the more rapid development of the neuromuscular functions that control the use of the hands in comparison to those which control the vocal apparatus. However research suggests that the use of gestures as symbols is dependent upon cognitive maturity, in the same way that development of symbolic speech is also dependent upon cognitive maturity. Evidence for this has appeared for example, in the similarity between deaf and hearing children's later acquisition of the pronominal system. Examples are found in the literature (e.g.

Pizzuto, 1990) of signing children confusing second and first person reference when using the signs YOU and I when referring to themselves and others.

Such studies of sign language acquisition are however based upon only the minority of deaf children, approximately 10% or even less of the population of deaf children who are born to deaf parents. The majority of deaf children receive a diminished sign input from their parents, or do not learn a sign language at home at all. Such children are of linguistic interest because they provide a key to our understanding the process of sign language acquisition. This has profound theoretical implications, allowing a further examination of the debate between the strong nativist theory of language acquisition which favours the position that language will develop even under circumstances of restricted and diminished input (e.g. Chomsky), and the position that places more emphasis upon the facilitative role of the caretaker and environmental influences (e.g. Snow & Ferguson 1977).

Research has shown that deaf children born to the majority of hearing parents are linguistically disadvantaged. Difficulties faced by such children are not only a consequence of reduced auditory input but also due to the non-establishment of the medium of communication on which language is built, i.e. the visual channel. It would seem that research has shown that although hearing mothers know that their children's hearing is impaired and appreciate the benefits of using a different mode of communication, they do not adapt their interactive style in accordance with the needs of their children, that is to say that they continue to implement strategies appropriate for the oral/aural channel rather than the manual/visual channel. Such behaviour includes signing when child is not looking, and continuing to sign when the child is looking away and not giving the child enough time to divide attention between two activities. As a consequence, research in language development in deaf infants with hearing parents has identified more problems in attention and turn-taking, than in the provision of a sign language for the child.

Therefore research into deaf mother/child communication has shown that the importance placed upon the early establishment of the visual mode of communication

is a necessary prerequisite for the internalisation of language. Control of eye gaze is an essential function for the absorption of information, and without this, the process of language acquisition can not adequately proceed. Moreover as Swisher (1991) notes 'children must learn the behaviour which is both socially and perceptually appropriate for communication'. In fact deaf mothers spend the first year of their child's life fine-tuning attentional strategies (Kyle & Ackerman 1987). Deafness precludes the child from simultaneously inspecting the world around him and receiving linguistic information. They must divide their attention between their environment and the reception of linguistic messages.

Other features of deaf mothers management of their children's visual field play an important role in their acquisition of sign language. Mechanisms include signing on the child's body or on or near objects, and bringing objects into the child's line of vision.

Another feature of deaf mother/child interaction which is of importance is that of *semantic contingency* - that is to say ensuring that the mother's response is related to the child's current activity or conversation. The literature on spoken language acquisition emphasises the importance of caretakers sensitivity to childrens utterances, emphasising the importance of encouraging and expanding upon their present topic of interest. Similarly deaf mothers have been found to spend a considerable percentage of time engaging in related tasks with their children, and in the early years (approximately around the age of 24 months) spending a great deal of time naming objects and using repetitive utterances - far more so than hearing mothers with hearing children. Deaf mothers of deaf children have been found (Mohay et al, 1992) to engage in more relaxed interactions with their children, communicating through touch and visual signals (such as showing, pointing and signing) but only when their children are looking at them. It would also seem that following the child's lead is equally important, and possibly more so for the deaf child because of the importance of its role in synchronising eye gaze.

Additionally point reference routines are established at a very early age ensuring effective communication and eye gaze. These consist of the mother: firstly, waving (to

attract the child's attention), then pointing to the referent, naming the referent she wishes the child to look at (e.g. a teddy bear), pointing to the referent once more, (which hopefully results in the child following the point), the mother then checks the child's gaze, and finally brings her hand back to regain eye contact with the child. A structured elicitation procedure to test this routine was carried out in the laboratory in Bristol University. Four stars were placed in the four corners of the laboratory. Mother and baby were requested to sit opposite each other in the middle of the room. The mother was instructed to 'get her child to look at each of the four stars in turn.' Deaf mothers were found to effectively complete the procedure, by firstly waving to attract their child's attention; pointing to a chosen star; signing STAR (i.e. naming the referent); pointing once again to the star, whilst monitoring her child's attention; and finally bringing their hand to rest. In comparison, hearing mothers were far less effective in carrying out this task, they were found to predominantly vocalise and point aimlessly in the direction of the stars.

Research in our laboratory in Bristol reveals that deaf children need the assistance of their caretakers in gaining their attention, if they are to see everything that is communicated to them.

Research into spoken and sign language acquisition in hearing/hearing and deaf/deaf mother/child dyads (e.g. Meadow et al 1980) has shown that in the acquisition of both signed and spoken languages, child utterances became more complex and extended over time and eventually more child-initiated. In many ways deaf/deaf communication through sign, patterns similarly to hearing/hearing communication through speech. In contrast to hearing mothers however, deaf mothers have been found to make more calls for attention and fewer references to themselves. Hearing mothers of deaf children have however been found to be more intrusive and inflexible; and far less likely to show pleasure and give encouragement and praise. It would appear that hearing mothers experience considerable difficulty establishing appropriate environmental supports for language acquisition due to a number of factors, including: the fact that they find their child's behaviour difficult to interpret; and they experience difficulties in establishing joint attention, and utilising this important criterion for

language input. These problems lead to insecurity and mean that mothers adopt more didatic and controlling roles in interaction.

Due to the problems experienced by hearing mothers in their attempts at interaction with their deaf infants and those problems identified by various researchers in their investigation of hearing/deaf mother/child dyads, various intervention programmes, (e.g. Dee 1981 & Mohay et al 1992 , Kyle & Sutherland 1993) have been initiated in an attempt to sensitise hearing parents to the perceptual world of their child - placing emphasis not only on sign language itself but also the mode of communication. It is important to introduce hearing mothers to some of the interactional strategies used by deaf mothers with their deaf children in order to encourage more appropriate and effective communication. It is essential that hearing mothers are alerted to the significance of attention, as decreased responsiveness to infants' change of attention focus results in lessened opportunities for the infant to internalise language and experience the 'initiator' role in communication - the latter being important for the development of interest in the world as well as subsequent development of the child's own self-esteem. Intervention programmes have also attempted to enhance hearing mothers awareness of the importance of 'affect' in mother/child interaction - this encourages more relaxed and mutually enjoyable activities by both interlocuters.

To date intervention have been able to produce positive changes in the interactions occurring between mothers and deaf children. Mothers have been found to become more aware of the need to gain the child's attention before attempting to communicate, and were also found to be less controlling and more co-operative in their interactions with their children. Children were also found to show greater co-operation and play more of a controlling role in joint activities.

Finally, it is interesting to address the theoretical implications of this research. The transition from prelinguistic to linguistic communication has attracted considerable interest in the past decade or so. Conventional research suggests that language emerges from prelinguistic communication, however in more recent years researchers have suggested that this continuum does not exist. The study of deaf children of deaf

parents permit a clearer understanding of the conditions necessary for language acquisition in comparison to those which coincide with the emergence of language. Models of continuity versus discontinuity theories of language acquisition are therefore testable.

Interactive-based models of language acquisition (e.g. Bates 1976, Bruner 1975, Piaget 1959) are based upon the assumption that language evolves from the child's interaction with the environment, and from prelinguistic knowledge of relations amongst objects and events. Therefore the child's only contribution is rather simple, consisting only of a very general language learning mechanism (Pettito 1983).

In contrast, innatist models of language acquisition, suggest that language emerges from innate knowledge of the structure and form of human languages. The task of the child therefore is to infer the structure of his native language i.e. the language to which he is exposed.

If the interactive model of acquisition is to hold water one would expect that the child's transition from prelinguistic to linguistic communication would be relatively smooth, that is to say that there should be no abrupt discontinuity in the use of certain forms.

If however the innatist theory of child language acquisition is more representative of the process of early language development one would expect the use of certain forms to be discontinuous, i.e. one would expect the reorganisation of knowledge regarding the function and use of linguistic forms once they become established within a formal grammatical system.

It would seem that studies to date would suggest that language is learned to some extent through experience with the environment but that its ultimate form is dependent upon the child's own cognitive and linguistic predispositions as to how language is to be acquired and organised into a system. Findings supporting this view include such factors as:

1) the child is selective in what he acquires from the environment; and that

2) he is selective as to when certain parameters come into operation (e.g. pro-drop)

Further research being carried out in Bristol into the acquisition of British Sign Language is hoping to further address some of the issues raised in this paper.

In summary, this paper has briefly highlighted the benefits of studying the natural acquisition of sign language. It has both practical and theoretical implications. It would seem that deaf mothers spend much of the first year of their child's life establishing the visual mode of communication, and it would seem that this is just as, if not more important than the quality of linguistic input that the child subsequently receives. In later years mothers adjust their language to suit the needs of their child. This includes reducing the length of their utterances or expanding and recasting their utterances in order to facilitate understanding. Knowledge of deaf motherese also has important implications for hearing mothers of deaf children, and can be used most effectively in organised intervention programmes to help mother/child interaction.

Finally, research to date suggests that language is learned from the environment but that its ultimate form is dependent upon an innate disposition to learn a language. It is hoped that further research into sign language acquisition, which is still a relatively new field, will contribute to the continuity/discontinuity debate in language acquistion research.

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